REMARKS

Claims 1-25 are pending. Claims 1-25 are rejected. No new matter has been added.

35 U.S.C. 103(a) Rejections

Claims 1, 7-9, 16-19, and 21-23 are rejected under 35 U.S.C. 103(a) as being obvious over Chen et al., U.S. Patent Application No. 2002/0116527 A1, in view of McAuley et al., U.S. Patent No. 5,386,413.

The Examiner is respectfully directed to independent Claim 1, which recites that an embodiment of the present invention is directed to:

> A method for performing a parallel hash transformation in a network device to generate a hash pointer for an address input, comprising:
> receiving an address input;
> apportioning the address input among a plurality of hashing units;
> executing a hash transformation on the apportioned address inputs in parallel, resulting in a corresponding plurality of hashing unit outputs; and
> combining the hashing unit outputs to generate a hash result corresponding to the address input.

Claims 9 and 19 recite similar limitations. Claims 7 and 8 are dependent upon Claim 1, and recite further features of the claimed invention. Claims 16-18 are dependent upon Claim 9, and recite further features of the claimed invention. Claims 21-23 are dependent upon Claim 19, and recite further features of the claimed invention.

The rejection suggests that the combination of Chen and McAuley discloses every element of the present invention. Applicant respectfully disagrees.

The rejection states that Chen fails to teach combining the hashing unit outputs to generate a hash result corresponding to the address, as claimed. Applicant respectfully agrees.

The rejection suggests that McAuley teaches combining the hashing unit outputs to generate a hash result corresponding to the address, as claimed. Applicant respectfully disagrees.

Applicant understands McAuley to discuss a switch memory for implementing a multilevel hierarchical routing table (abstract). The rejection suggests that the operation of the content addressable memory modules discussed by McAuley equates to combining the hashing unit outputs to generate a hash result corresponding to an address, as claimed. However, McAuley does not show this.

The function of the mask circuits described by McAuley is not to produce any hash value output. Instead, the mask circuits simply block a portion of an address that passes through them, e.g.,201-498-4484 is masked by one masking circuit to 201-829-XXXX, and by another to 201-XXX-XXXX (column 9, lines 21-43). Masking should not be equated with hashing.

After passing through the masking circuit, the masked address reaches a CAM. The operation of the cam, as described by McAuley, is to match the masked address with an address stored in the cam. Here, too, no mention of hashing is made.

Moreover, the outputs of the masking circuit/cam pairing described in McAuley are never combined to generate a hash result corresponding to the address input, as claimed. The outputs from the cams are routed to the prioritizer circuit. The prioritizer circuit, in contrast to the claimed embodiment, does not combining these various outputs to create a result corresponding to the original address input. The output from the cams that reaches the prioritizer circuit consists only of a match flag, output if the masked address matches and address stored in the cam (column 9, lines 13-17). The prioritizer circuit does not combining these flags; instead, after receiving the flanks, it selects in-between the outputs of the cams (column 9, lines 31-35).

Because McAuley does not describe *combining* hash unit outputs to generate a hash result corresponding to the address, as claimed, Chen, alone or in combination with McAuley, fails to anticipate or render obvious the embodiments recited in independent Claims 1, 9, and 19.

Therefore, Applicant respectfully asserts that Claims 1, 9, and 19 overcome the grounds for rejection under 35 U.S.C. 103(a), and are in condition for allowance. Accordingly, Claims 7 and 8, dependent upon Claim 1, Claims 16-18, dependent upon Claim 9, and Claims 21-23, dependent upon Claim 19, overcome the basis for rejection under 35 U.S.C. 103(a), as they are dependent on allowable base claims.

Claims 2 and 10 are rejected under 35 U.S.C. 103(a) as being obvious over Chen, in view McAuley, further in view of Donoghue et al., U.S. Patent App. No. 2003/0117944.

The Examiner is respectfully directed to independent Claim 1, reproduced above. Claims 2 and 10 are dependent on Claim 1, and recite further features of the claimed embodiments.

As set forth previously, Applicant asserts that Chen, alone or in combination with McAuley, fails to teach or describe combining the hashing unit outputs to generate a hash result corresponding to the address input, as claimed. Donoghue fails to remedy this defect in Chen and McAuley, as Donoghue does not teach or describe combining the hashing unit outputs to generate a hash result corresponding to the address input, as claimed. Therefore, Chen, alone or in combination with McAuley and Donoghue, fails to anticipate or render obvious the embodiments of the present invention recited in Claims 2 and 10.

Claims 3 and 11 are rejected under 35 U.S.C. 103(a) as being obvious over Chen, in view McAuley, further in view of Donoghue, further in view of Glaise et al., U.S. Patent. No. 6,097,725.

The Examiner is respectfully directed to independent Claim 1, reproduced above. Independent Claim 9 recites similar limitations. Claim 3 is dependent on Claim 1, and recites further features of the claimed embodiments. Claim 11 is dependent on Claim 9, and recites further features of the claimed embodiments.

As set forth previously, Applicant asserts that Chen, alone or in combination with McAuley and Donoghue, fails to teach or describe combining the hashing unit outputs to generate a hash result corresponding to the address input, as claimed.

Glaise fails to remedy this defect in Chen, McAuley, and Donoghue, as Glaise does not teach or describe combining the hashing unit outputs to generate a hash result corresponding to the address input, as claimed. Therefore, Chen, alone or in combination with McAuley, Donoghue, and Glaise, fails to anticipate or render obvious the embodiments of the present invention recited in Claims 3 and 11.

Claim 4 is rejected under 35 U.S.C. 103(a) as being obvious over Chen, in view McAuley, further in view of Hunter et al., U.S. Patent App. No. 2002/0059197 A1.

The Examiner is respectfully directed to independent Claim 1, reproduced above. Claim 4 is dependent on Claim 1, and recites further features of the claimed embodiments.

As set forth previously, Applicant asserts that Chen, alone or in combination with McAuley, fails to teach or describe combining the hashing unit outputs to generate a hash result corresponding to the address input, as claimed. Hunter fails to remedy this defect in Chen and McAuley, as Hunter does not teach or describe combining the hashing unit outputs to generate a hash result corresponding to the address input, as claimed. Therefore, Chen, alone or in combination with McAuley and Hunter, fails to anticipate or render obvious the embodiments of the present invention recited in Claim 4.

Claim 5 is rejected under 35 U.S.C. 103(a) as being obvious over Chen, in view of McAuley, further in view of Hunter, further in view of Melvin, U.S. Patent. No. 6,804,767.

The Examiner is respectfully directed to independent Claim 1, reproduced above. Claim 5 is dependent on Claim 1, and recites further features of the claimed embodiments.

As set forth previously, Applicant asserts that Chen, alone or in combination with McAuley and Hunter, fails to teach or describe combining the hashing unit outputs to generate a hash result corresponding to the address input, as claimed. Melvin fails to remedy this defect in Chen, McAuley, and Hunter, as Melvin does not teach or describe combining the hashing unit outputs to generate a hash result corresponding to the address input, as claimed. Therefore, Chen, alone or in combination with McAuley, Hunter, and Melvin, fails to anticipate or render obvious the embodiments of the present invention recited in Claim 5.

Claims 6, 14, 15, 20, 24, and 25 are rejected under 35 U.S.C. 103(a) as being obvious over Chen, in view McAuley, further in view of Goldberg et al., U.S. Patent App. No. 2004/0013112 A1.

The Examiner is respectfully directed to independent Claim 1, reproduced above. Independent Claims 9, 19, and 24 recite similar limitations. Claim 6 is dependent on Claim 1, and recites further features of the claimed embodiments. Claims 14 and 15 are dependent on Claim 9, and recite further features of the claimed

embodiments. Claim 20 is dependent on Claim 19, and recites further features of the claimed embodiments. Claim 25 is dependent on Claim 24, and recites further features of the claimed embodiments.

As set forth previously, Applicant asserts that Chen, alone or in combination with McAuley, fails to teach or describe combining the hashing unit outputs to generate a hash result corresponding to the address input, as claimed. Goldberg fails to remedy this defect in Chen and McAuley, as Goldberg does not teach or describe combining the hashing unit outputs to generate a hash result corresponding to the address input, as claimed. Therefore, Chen, alone or in combination with McAuley and Goldberg, fails to anticipate or render obvious the embodiments of the present invention recited in Claims 6, 14, 15, 20, 24, and 25.

Claim 12 is rejected under 35 U.S.C. 103(a) as being obvious over Chen, in view of McAuley, further in view of Donoghue, further in view of Hunter.

The Examiner is respectfully directed to independent Claim 1, reproduced above. Independent Claim 9 recites similar limitations. Claim 12 is dependent on Claim 9, and recites further features of the claimed embodiments.

As set forth previously, Applicant asserts that Chen, alone or in combination with McAuley and Donoghue, fails to teach or describe combining the hashing unit outputs to generate a hash result corresponding to the address input, as claimed. Hunter fails to remedy this defect, as Hunter does not teach or describe combining the hashing unit outputs to generate a hash result corresponding to the address input, as

claimed. Therefore, Chen, alone or in combination with McAuley, Donoghue, and Hunter, fails to anticipate or render obvious the embodiments of the present invention recited in Claim 12.

Claim 13 is rejected under 35 U.S.C. 103(a) as being obvious over Chen, in view of McAuley, further in view of Donoghue, further in view of Hunter, further still in view of Melvin.

The Examiner is respectfully directed to independent Claim 1, reproduced above. Independent Claim 9 recites similar limitations. Claim 13 is dependent on Claim 9, and recites further features of the claimed embodiments.

As set forth previously, Applicant asserts that Chen, alone or in combination with McAuley, Donoghue, and Hunter, fails to teach or describe combining the hashing unit outputs to generate a hash result corresponding to the address input, as claimed. Melvin fails to remedy this defect, as Melvin does not teach or describe combining the hashing unit outputs to generate a hash result corresponding to the address input, as claimed. Therefore, Chen, alone or in combination with McAuley, Donoghue, Hunter, and Melvin, fails to anticipate or render obvious the embodiments of the present invention recited in Claim 13.

Conclusion

In light of the above-listed amendments and remarks, Applicants respectfully request allowance of the remaining Claims.

The Examiner is urged to contact Applicants' representative William P. O'Meara, at 970-898-7917, if the Examiner believes such action would expedite resolution of the present Application.

Respectfully submitted,

WAGNER, MURABITO & HAO LLP

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James Hao
Reg. No. 36,398
Two North Market Street
Third Floor
San Jose, California 95113
(408) 938-9060